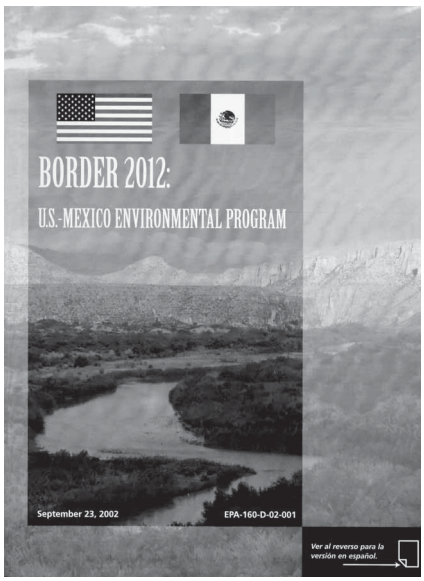
GOAL 6: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

The United States will lead other nations in successful multilateral efforts to reduce significant risks to human health and ecosystems from climate change, stratospheric ozone depletion, and other hazards of international concern.

PROGRESS TOWARD THE STRATEGIC GOAL AND OBJECTIVES

EPA's domestic, bilateral, and multilateral efforts protect and preserve human health and the environment in the United States and around the world. Since 1997 the Agency has made significant progress in reducing risks to human health and ecosystems by working to reduce stratospheric ozone depletion, helping to slow climate change through voluntary programs, reducing and mitigating hazards on U.S. borders, and taking action to reduce other hazards of international concern.

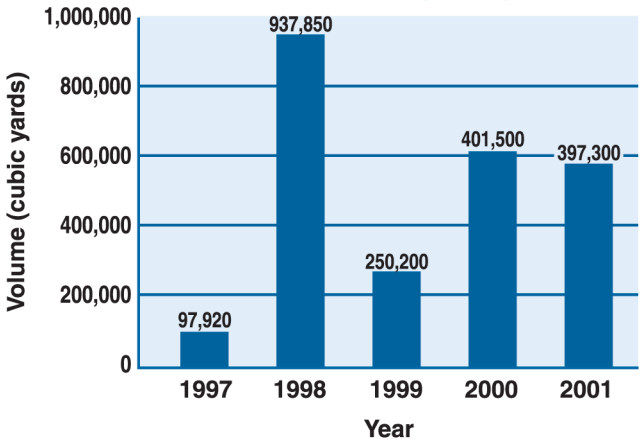
On the Mexican border, new and increased regional participation will result in better health and ecosystem protection. The governments of the United States and Mexico, 10 border states in the United States and Mexico, and 26 participating tribes drafted a new Border 2012 environmental program to protect the public health of 11.8 million inhabitants of the area and the environment for the next 10 years. Border 2012 emphasizes a bottom-up approach, anticipating that local decision making, priority setting, and project implementation will better address environmental issues in the border region (http://www.epa.gov/r6border).[1]



EPA and state and local governments succeeded in conducting both an international exercise between sister cities on the border to test the binational emergency response plan and local binational security seminars on weapons of mass destruction including biological and nuclear exposures. EPA continues to evaluate environmental needs and facilitate the construction of environmental infrastructure with the Border Environment Cooperation Commission (BECC) and the North American Development Bank. As of FY 2002, 67 BECC-certified projects had been or were being built in the border area, ultimately serving about 7.6 million border residents. About 720,000 residents along the Mexican border will receive protection from health risks, beach pollution, and damaged ecosystems as a result of improved water and wastewater sanitation systems funded in FY 2002.

Contaminated sediments impair more than 2,000 miles, or 20 percent, of shoreline and are a principal source of the polychlorinated biphenyls (PCBs) and other persistent toxics contributing to fish consumption advisories throughout the U.S.–Canadian Great Lakes. On the Canadian border, contaminated sediments and PCBs are the principal sources of Great Lakes fish and wildlife contamination. EPA and its partners remediated almost 400,000 cubic yards of contaminated sediments in 2001, bringing the 4-year cumulative total to 2.1 million cubic yards.[2] Consequently, from 2001 actions alone, 100,000 to 200,000 pounds of toxic pollutants, which could adversely affect human health, were physically removed from the

Volume of Sediment Remediated in U.S. Great Lakes Basin Beginning in 1997

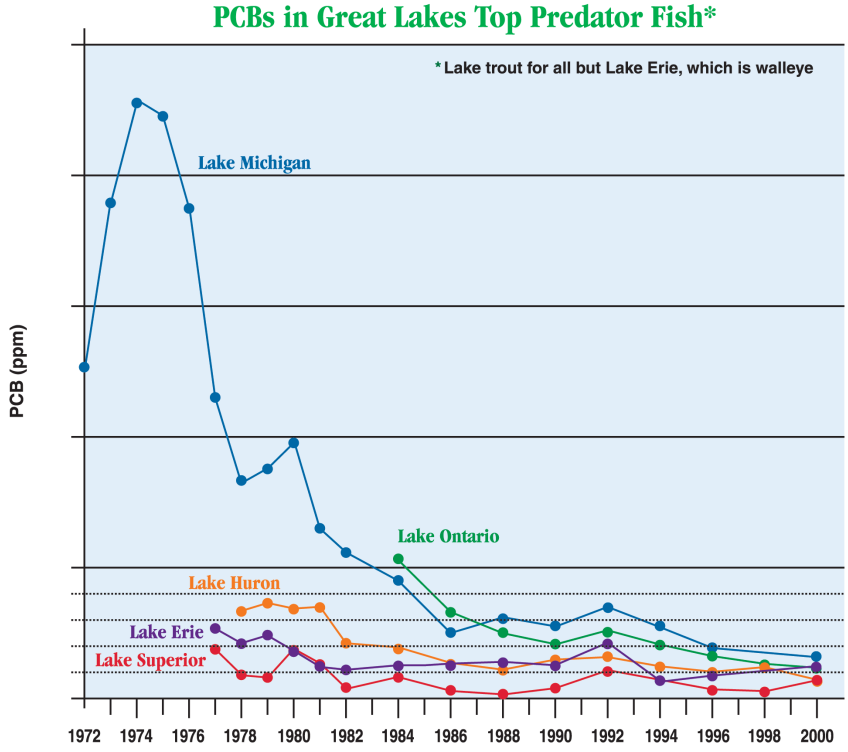


environment. Such removal will lead to a more diverse and less contaminated community of small organisms at the base of the food chain. Over the long term, water quality will improve and fish will be less contaminated and safer to eat.

Despite major reductions since the 1970s of PCB concentration levels in Great Lakes fish, this region is still well beyond the Health Protection Value (HPV) of 0.05 parts per million agreed upon by the Great Lakes states. The HPV is a level considered safe for even the most sensitive subpopulations, such as women and children, to eat unlimited fish. Although the overall trend continues to decline, indicating progress by EPA in removing contaminants from the Great Lakes ecosystem, concentrations of certain contaminants in Lakes Erie and Superior fish are no longer decreasing. Some contaminants such as polybrominated diphenyl ethers, used in flame retardants and often applied to textiles, have been detected in Great Lakes fish at exponentially increasing concentrations.[3]

EPA continues to make adjustments concerning the inexplicably low dissolved oxygen levels in Lake Erie, which have resulted in an increasing "dead zone," despite U.S. and Canadian success in achieving total phosphorus targets. Success in phosphorus reduction should have resulted in higher dissolved oxygen concentrations because there should have been less of the algae decomposition that removes oxygen from the water. Instead, the dissolved oxygen rate of decline in 2001, reported in 2002, was among the most rapid in the past decade. EPA convened 25 principal investigators and cooperators in May 2002 to initiate a special study of Lake Erie. More than $1 million from U.S. and Canadian federal and local agencies and universities will be invested in the study (http://www.epa.gov/glnpo/lakeerie/eriedeadzone.html).

PCBs in Great Lakes Top Predator Fish*



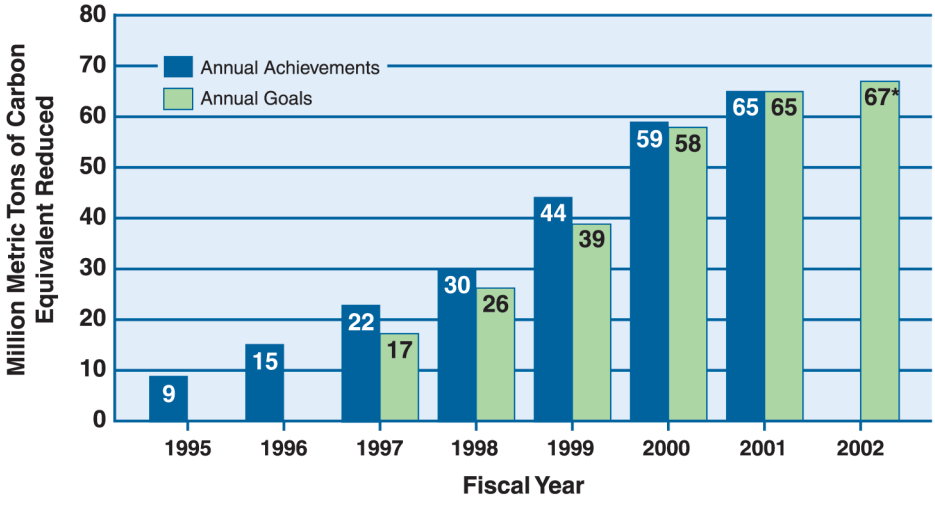
EPA, working together with the U.S. Coast Guard, the National Oceanic and Atmospheric Administration, the Department of State, and other interested parties, made a significant breakthrough in FY 2002 in efforts to prevent the introduction of invasive species into navigable waterways. The introduction of nonnative aquatic species through ship ballast water has resulted in direct costs exceeding $1 billion in the United States since 1989 and has dramatically altered estuarine and marine ecosystems across North America. International negotiations continue, but the United States has succeeded in convincing numerous other governments around the world that an international performance standard applicable to ship ballast water discharges is the most effective means for preventing the transfer of these harmful organisms. Although aquatic species are introduced through other vectors, such as hull fouling, ballast water is widely recognized as the single largest vector responsible for the transfer of aquatic species across the globe.

Climate change and depletion of the ozone layer are both important areas of focus for the Agency. EPA is on target to achieve the strategic objective to reduce U.S. greenhouse gas (GHG) emissions and slow climate change through voluntary programs. In addition to the long-term climate benefits, energy savings from partnership programs leads to increased energy system reliability and energy security, as well as reduced energy costs to businesses and consumers. Reductions in energy use lead to corresponding reductions in emissions of carbon dioxide (CO_2), nitrogen oxide (NO_x), sulfur dioxide (SO_2), and mercury, resulting in cleaner air and water. Emissions of NO_x were reduced by 140,000 tons in 2001 alone.[4]

FY 2002 PERFORMANCE

EPA's international accomplishments in FY 2002 were wide-ranging. At the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa, in August–September 2002, EPA and its partners announced a goal to reduce by half, by 2015, the estimated 4.4 billion people worldwide who do not have access to basic sanitation and announced partnerships on cleaner fuels and vehicles (http://www.johannesburgsummit.org). International capacity efforts will lead to several accomplishments: the reduction of 600,000 tons of mobile source emissions in Russia; 25 countries in Africa committing to phaseout of leaded gasoline by 2005; establishment of environmental ministries in all 7 Central American countries; small-scale efforts in East Africa to train workers in accessing chemical

Overall Goals and Accomplishments for the Climate Protection Programs



*Note: FY 2002 data are not official as shown in EPA Budget documents.

EPA'S ON THE GROUND AT WSSD

The Ubuntu Village was the central transportation and logistics hub for the WSSD, in which more than 22,000 people participated, including more than 10,000 delegates, 8,000 non-governmental organizations, and representatives of civil society. EPA presented formal mini-courses on key sustainable development issues. These practical "how to" courses addressed environmental decision making, water resource and watershed management, pesticide handling, children's health, and partnerships.

safety information via the Internet; and advances implementing the Stockholm Convention on persistent organic pollutants (POPs) worldwide, toward the goal to eliminate the use of 12 of the worst POPs chemicals (http://www.pops.int).

In June 2002 a new cooperative agenda for children's environmental health in North America was adopted at the Council Session of the North American Commission on Environmental Cooperation. Through this agenda, the Council, representing the governments of the United States, Mexico, and Canada, agreed on 17 concrete action items to address the priorities of asthma and respiratory disease, lead poisoning, and the effects of exposures to toxic chemicals, including pesticides. Priority actions identified in the cooperative agenda include strengthening the knowledge base through the development of indicators, research, risk assessment, and economic valuation for the long term and increased public outreach and education for the short term. Activities related to waterborne diseases might be added to the cooperative agenda in the future.

Many of EPA's climate protection programs have resulted in substantial savings in energy use and energy costs in the United States that will be realized over the next decade. Because equipment promoted through EPA's climate change programs often lasts for decades or more, these investments will continue to deliver environmental and economic benefits through 2012 and beyond. Based on a 2002 analysis of actions that program partners have taken through the end of 2001, consumers and businesses have secured investments in energy-efficient technologies exceeding $13 billion. After accounting for these investments, consumers and businesses are expected to save about $70 billion cumulatively through 2012. In FY 2001 reductions of GHGs totaled 65 million metric tons of carbon equivalent and energy consumption was reduced by an estimated 84 billion kilowatt hours. These programs continue to be highly cost-effective approaches for delivering environmental benefits across the nation. Every dollar EPA spends on climate change programs results in a reduction in GHG emissions of 1 metric ton of carbon equivalent (3.7 tons of CO_2), savings for partners and consumers of more than $75 per year on their energy bills, the creation of more than $15 in private sector investment, and the addition of over $60 into the economy.[5]

The projected increase in the use of chlorofluorocarbons (CFCs) and halons—powerful stratospheric ozone-depleting substances (ODS)—in developing countries could eliminate the benefits achieved in the United States, in addition to posing serious public health problems, such as increased skin cancer, for populations worldwide. Through U.S. payments to the Multilateral Fund over the past 10 years, EPA helped fund more than 3,900 projects that when fully implemented will permanently eliminate more than 150,000 metric tons of ODSs.[6] EPA also concluded agreements with developing countries to dismantle over two-thirds of their CFC production capacity and nearly all of their halon production capacity. In FY 2002 the United States reduced methyl bromide production and imports by 50 percent from the 1991 baseline and listed 50 new alternatives to ODSs through the Significant New Alternatives Program.[7] Finally, EPA expanded the outreach of its SunWise School Program by 70 percent over the 2001 level with an additional 223,000 students in a total of 4,800 schools. The SunWise School Program

ENVIRONMENTAL TECHNOLOGY AT WORK

EPA's Clean Automotive Technology program made significant progress on the goal of increasing the fuel economy of motor vehicles by as much as 50 percent or more through hydraulic hybrid technology. Using EPA-developed technology, the Ford Motor Company announced its plans for "a demonstration fleet of E550 commercial vans for production prove-out of a promising hydraulic hybrid powertrain" and noted that a demonstration fleet will be put into service in early 2004[a]. This initial commercial prove-out of EPA's hydraulic hybrid technology provides a 30 to 35 percent fuel economy improvement. This action reflects Ford's commitment to its agreement with EPA "to invest to further develop this proprietary technology, with an aim toward putting a pilot fleet of vehicles on the road by the end of the decade." Research is continuing on the goal for a full hydraulic hybrid vehicle, which is expected to achieve fuel economy improvement of more than 100 percent[b].

Sources:
a. "Ford Prepares Demonstration Fleet of Vans with Hydraulic Power Assist," Ford Motor Company, July 15, 2002.

b. U.S. Environmental Protection Agency, "Ford Signs Agreement to Develop Technology *to Improve Fuel Economy*" (October 12, 2001).

educates children ages 5 to 12 on the risks associated with ultraviolet and sun exposure.

Research Contribution

In FY 2002 EPA examined the effects of climate change on weather-related morbidity in the United States at both the national and regional levels. Specifically, the Agency issued a report for external review that analyzed the effects of inclement weather on accidents and injuries and projected changes in incidence associated with climate change. The report also addressed the effects of extreme heat on emergency room visits and hospital admissions. These data will help inform decision makers about the extent to which adaptive responses will have to be made to reduce the effects of continued global warming.

The Agency is also conducting research on the effects of globally transmitted mercury. Research findings suggest unanticipated changes are occurring to mercury, which cycles globally through the air after being released from coal-fired facilities, at the poles and at high altitudes.[8] For example, in the spring, when sunlight first returns to the Arctic, elemental mercury transforms into more water-soluble and bioavailable reactive gaseous mercury (RGM), which can enter the ecosystem through snowmelt. Further evidence indicates that there might be some transport of mercury from the Arctic to the lower 48 states due to the polar sunrise in the spring. Findings of research conducted at high altitudes indicates that elemental mercury, previously believed to remain unreactive and innocuous during global transport, is transforming into RGM, which is being deposited over land and sea with such biological consequences as increased mercury levels in tuna, swordfish, and other fish.

Program Evaluation

Appendix A contains descriptions of program evaluations completed in FY 2002 that support this goal.

STATE CONTRIBUTIONS

Although many metropolitan areas have had some form of commuter programs through the years, the Commuter Choice Leadership Initiative represents the first comprehensive national standard of excellence for commuter benefits. EPA partners with employers who agree to reduce their employees' vehicle miles traveled during commuting by offering incentives for them to use alternative modes of transportation. FY 2002 represented the first full year of recruiting for the Commuter Choice Partners program. By the end of FY 2002, 1,300 employers had signed up

COMMUTER CHOICE EMPLOYERS IN COLORADO[a]

- Almost 20,000 fewer automobile commuting trips taken every single working day.
- 3 million gallons of gasoline saved every year.
- $4.7 million a year in gasoline costs saved by employees.
- 550 tons per year of noxious air pollutants taken out of Colorado air.
- 24,000 tons of global warming pollution prevented.

[a] Those values are estimates based on the COMMUTER Model, A EPA-, DOT- and industry-reviewed model that estimates changes in travel behavior. With the number of commuters from program data, the model gives an estimate of mode shift (changes in travel behavior), then the national average auto emissions savings values are applied.

representing nearly 570,000 commuters. Commuter Choice Employers are located at over 290 work sites in more than 25 states[9] (http://www.commuterchoice.gov).

The Agency continues to partner with states and Canada to achieve significant environmental progress in addressing toxic chemicals. In FY 2002 government, industry, and non-governmental partners in the United States/ Canadian Great Lakes Binational Toxics Strategy reported large reductions in the worst toxic chemicals polluting the Great Lakes. For the first time, EPA can quantify that it has made substantial progress toward achieving the challenge goals set for 2006.

In FY 2002 EPA worked with states, through the Quicksilver Caucus, to resolve two difficult mercury issues: how to meet mercury reduction goals for specific water bodies where mercury water pollution is caused primarily by air deposition, and how to ensure safe stewardship of mercury supplies and wastes. The Caucus is also providing comments and counsel on EPA's draft Mercury National Action Plan.

In FY 2002 the Commission for Environmental Cooperation (CEC) established the Bio-diversity Conservation Working Group. This is the first standing working group of the Commission for Environmental Cooperation to include non-governmental stakeholders in a

Progress Under United States/Canada Great Lakes Binational Toxics Strategy

Mercury	United States	over 40%–50% use and release reduction
	Canada	over 78% release reduction
Polychlorinated biphenyl (PCBs)	United States	30% (PCB transformers) and 10% (PCB capacitors) have been disposed of
	Canada	80% of high-level PCB wastes have been destroyed
Other Toxic Chemicals	United States	75% reduction of hexachlorobenzene and 25% reduction of benzo(a)pyrene
	Canada	65% reduction of hexachlorobenzene and 45% reduction of benzo(a)pyrene

Source: US EPA, Great Lakes National Program Office and Environment Canada, Environmental Protection Branch. *Great Lakes Binational Toxics Strategy Five-Year Perspective.* May 2002. http://www.epa.gov/glnpo/bns/reports/5YearPerspective/5Year.html

formal way, and it represents a new direction in stakeholder involvement on the CEC. The working group includes state/provincial and federal government agencies, indigenous and local communities, the academic community, environmental non-governmental organizations, and the private sector. These stakeholders and other interested groups will be included in the processes of developing a Strategic Plan to guide the Conservation of Bio-diversity Program, promoting the implementation of Action Plans and other activities, and reviewing the Strategic Plan to ensure its continuing effectiveness.

ASSESSMENT OF IMPACTS OF FY 2002 PERFORMANCE ON FY 2003 ANNUAL PERFORMANCE PLAN

There are no changes to FY 2003 APGs based on the results of FY 2002 performance.

Goal 6: Reduction of Global and Cross-Border Risks

Summary of FY 2002 Annual Performance Goals

1 Goals Met	3 Goals Not Met	3 Data Lags

A description of the quality of the data used to measure EPA's performance can be found in Appendix B.

FY 2002 Obligations *(in thousands)*:	
EPA Total:	$9,447,202
Goal 6:	$212,569
Goal 6 Share of Total:	2.3%

FY 2002 Costs *(in thousands)*:	
EPA Total:	$7,998,422
Goal 6 Costs:	$242,958
Goal 6 Share of Total:	3.0%

Refer to page I-13 of the Overview (Section I) for an explanation of difference between obligations and costs.
Refer to page IV-10 of the Financial Statements for a consolidated statement of net cost by goal.

Annual Performance Goals (APG) and Measures FY 1999–FY 2002 Results

Strategic Objective: By 2005, Reduce Transboundary Threats to Human Health and Shared Ecosystems in North America, Including Marine and Arctic Environments, Consistent with Our Bilateral and Multilateral Treaty Obligations in These Areas, As Well As Our Trust Responsibility to Tribes.
FY 2002 Cost (in thousands): $62,807 (25.9% of FY 2002 Goal 6 Total Costs)

Progress Toward Strategic Objective: EPA is on track to meet this objective. EPA made significant progress in FY 2002 toward achieving this objective by reducing threats to human health and shared ecosystems along the Mexican and Canadian borders and marine waters. Improved water and wastewater services were provided along the Mexican border through the Border Environmental Infrastructure Fund. Successful international exercises were conducted between U.S.-Mexican border sister cities to test the binational emergency response plans, and local binational security seminars on weapons of mass destruction and bio and nuclear exposures were conducted to support homeland security. Along the Canadian border EPA and its partners removed or contained more than 400,000 cubic yards of contaminated sediments from the Great Lakes, substantially exceeding the 100,000-cubic yard target and bringing the 4-year cumulative total to 2.1 million cubic yards. The removal or containment of contaminated sediments will over the longer term result in improved water quality and in fish which are less contaminated and safer to eat. Negotiations that seek to manage the introduction of invasive species by ships globally took a major step forward, resulting in an agreement to establish an international standard to prevent introduction of invasive species through ship's ballast water.

APG 42	**U.S.-Mexico Border Water/Wastewater Infrastructure**	**Planned**	**Actual**
FY 2002	**Increase the number of residents in the Mexico border area who are protected from health risks, beach pollution and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure by providing improved water and wastewater service. Goal Not Met.**		
	Performance Measure		
	- Number of additional people in Mexico border area protected from health risks because of adequate water and wastewater sanitation systems funded through Border Environmental Infrastructure Fund.	**790,000**	**720,000**
FY 2001	*Same Goal, different target. Goal Met.*	*600,000*	*576,405*
FY 2000	*Five additional water/wastewater projects along the Mexican border will be certified for design-construction for a cumulative total of 30 projects. Goal Met.*	*5*	*10*
FY 1999	*One additional water/wastewater project along the Mexican border will be certified for design construction. Goal Met.*	*1*	*9*

FY 2002 Result: EPA's Mexico Border Program is working to increase public health and environmental benefits by directing funding to high-quality projects ready to proceed relatively quickly to construction. Progress has slowed somewhat from earlier projections due to the intensity and duration of pre-project planning necessary for the development of such higher quality projects. Residents numbering 720,000 in the Mexican border area were protected from health risks, beach pollution, and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure by providing improved water and wastewater service.

APG 43	**Great Lakes: Ecosystem Assessment**	**Planned**	**Actual**
FY 2002	**Great Lakes ecosystem components will improve, including progress on fish contaminants, beach closures, air toxics, and trophic status. Goal Not Met.**		

	Performance Measures		
	- Long-term concentration trends of toxics (PCBs) in Great Lakes top predator fish.	**declining**	**declining**
	- Long-term concentration trends of toxic chemicals in the air.	**declining**	**declining**
	- Total phosphorus concentrations (long-term, µg/l) in the Lake Erie Central Basin.	**improving**	**mixed**
FY 2001	*Great Lakes ecosystem components will improve, including progress on fish contaminants, beach closures, air toxics, and trophic status. Goal Met.*		
	Performance Measures		
	- Concentration trends of toxics (PCBs) in Great Lakes top predator fish.	*declining*	*uncertain*
	- Concentration trends of toxic chemicals in the air.	*declining*	*declining*
	- Trophic status and phosphorous concentrations in the Great Lakes.	*improving*	*improving*
FY 2000	*Measurable improvements in Great Lakes ecosystem components. Goal Met.*		
	Performance Measures		
	- Indicator indices.	*9*	*10*
	- Model predictions for toxics reductions.	*5*	*5*

FY 2002 Result: EPA met targets for declining long-term concentration trends of toxics (PCBs) in Great Lakes top predator fish and toxic chemicals in the air. By removing or containing contaminated sediments, 100,000 to 200,000 pounds of persistent toxics that could affect human health will no longer be biologically available through the food chain. This decrease contributes to decreasing fish contaminants and advances the goal of removing fish advisories.

There is currently scientific uncertainty over the cause of the regrowth of the Lake Erie dead zone. Nonpoint source control had reduced nutrient levels in the past (from agriculture and husbandry activities), but the zone is redeveloping without known cause. To provide a better focus on the dynamic changes to the Lake Erie ecosystem, the Agency, for FY 2003 and beyond, replaced the general Great Lakes trophic status and phosphorus concentration measure with a measure for phosphorus concentration in the Lake Erie central basin, specifying a quantitative target.

FY 2001 Result Available in FY 2002: Great Lakes ecosystem components improved, including progress on fish contaminants, beach closures, air toxics, and trophic status.

Strategic Objective: By 2010, U.S. Greenhouse Gas Emissions Will Be Substantially Reduced Through Programs and Policies That Also Lead to Reduced Costs to Consumers of Energy and Reduced Emissions Leading to Cleaner Air and Water. In Addition, EPA Will Carry Out Assessments and Analyses and Promote Education to Provide an Understanding of the Consequences of Global Change Needed for Decision Making.

FY 2002 Cost (in thousands): $146,171 (60.1% of FY 2002 Goal 6 Total Costs)

Progress Toward Strategic Objective: EPA continues to make substantial progress toward this objective. EPA's Climate Protection Programs (CPP) have substantially reduced emissions of carbon dioxide (CO_2) and other greenhouse gases (GHGs) such as methane and perfluorocarbons (PFCs). Since the mid-1990s these programs have reduced U.S. GHG emissions by more than 300 million metric tons carbon equivalent (MMTCE), while also saving families and businesses an estimated $28 billion on energy bills (net of investments in energy-efficient technologies) and deterring approximately 600,000 tons of smog-forming nitrogen oxide (NO_x) from entering the air. In FY 2002 EPA implemented new partnership programs aimed at reducing energy demand in the transportation sector.

Many of EPA's CCPs have locked in substantial energy and environmental benefits over the next decade. Since many of the investments promoted through CPPs involve energy-efficient equipment with lifetimes of decades or more, the investments achieved through 2002 will continue to deliver environmental and economic benefits through 2012 and beyond. Based on investments made in equipment due to EPA's programs through 2002, the Agency estimates that organizations and consumers across the country will net savings of more than $70 billion and GHG emissions will be reduced by more than 500 MMTCE through 2012 (cumulative reductions based on estimated 2002 achievements). These programs continue to be highly cost-effective approaches for delivering environmental benefits across the country. For every dollar EPA spends on its technology deployment programs, these programs reduce GHG emissions by more than 1.0 metric ton of carbon equivalent (3.7 tons of CO_2) and deliver more than $75 per year in energy bill savings. This is based on a cumulative reduction since 1995.

APG 44	**Reduce Greenhouse Gas Emissions**	**Planned**	**Actual**
FY 2002	**Greenhouse gas (GHG) emissions will be reduced from projected levels by approximately 65.8 million metric tons of carbon equivalent (MMCTE) per year through EPA partnerships with businesses, schools, state and local governments, and other organizations thereby offsetting growth in GHG emissions above 1990 levels by about 20 percent. Data Lag.**		
	Performance Measures		
	- Annual GHG Reductions–All EPA Programs.	**65.8**	**data available in 2003**
	- GHG Reductions from EPA's Buildings Sector Programs (ENERGY STAR).	**17.2**	
	- GHG Reductions from EPA's Industrial Efficiency/Waste Management Programs.	**6.3**	
	- GHG Reductions from EPA's Industrial Methane Outreach Programs.	**16.3**	
	- GHG Reductions from EPA's Industrial HFC/PFC Programs.	**21.9**	

	- **GHG Reductions from EPA's Transportation Programs.** - **GHG Reductions from EPA's State and Local Programs.**	**2.1** **2.0**	
FY 2001	*GHG emissions will be reduced from projected levels by approximately 66 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations thereby offsetting growth in greenhouse gas emissions above 1990 levels by about 20%. Goal Met.*	*66*	*65**
FY 2000	*GHG emissions will be reduced from projected levels by more than 58 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations thereby offsetting growth in GHG emissions above 1990 levels by about 20%. Goal Met.*	*58*	*59.3*
FY 1999	*Reduce U.S. GHG emissions by 35 MMTCE per year through partnerships with businesses, schools, state and local governments, and other organizations. Goal Met.*	*35*	*46*

FY 2002 Result: Data for this performance goal will be available in mid-2003. EPA is on track to meet this goal.

FY 2001 Result Available in FY 2002: EPA's CPPs reduced GHG emissions by 65 MMTCE in 2001. EPA estimates that due to investments made through the Agency's technology deployment programs, GHG emissions will be reduced by more than 500 MMTCE through 2012.

***Note:** The annual target for this goal was set at 65.8 MMTCE. Of that total, 6.2 MMTCE was for transportation programs. Within that 6.2 MMTCE, approximately 4.2 MMTCE was for the Transportation Partners Program that was zeroed out by Congress. When these estimated reductions are removed, the revised target for FY 2001 is 61.6 MMTCE. Using the revised target, EPA met its goal.

APG 45	Reduce Energy Consumption	Planned	Actual
FY 2002	**Reduce energy consumption from projected levels by more than 85 billion kilowatt hours, contributing to over $10 billion in energy savings to consumers and businesses. Data Lag.**	**85**	**data available in 2003**
FY 2001	*Reduce energy consumption from projected levels by more than 75 billion kilowatt hours, contributing to over $9 billion in energy savings to consumers and businesses. Goal Met.*	*75*	*84*
FY 2000	*Same Goal, different targets. Goal Met.*	*60*	*74*

FY 2002 Result: Data for this performance goal will be available in mid-2003. EPA is currently on track to meet this goal.

FY 2001 Result Available in FY 2002: EPA's CPPs reduced energy use by 84 billion kilowatt hours in 2001. EPA estimates that from investments made due to EPA's technology deployment programs, businesses and consumers across the country will realize energy bill savings of more than $70 billion through 2012 (net of investment in energy-efficient technologies).

Strategic Objective: By 2005, Ozone Concentrations in the Stratosphere Will Have Stopped Declining and Slowly Begun the Process of Recovery. In Addition, Public Education to Promote Behavior Change Will Result in Reduced Risk to Human Health From Ultraviolet (UV) Overexposure, Particularly Among Susceptible Subpopulations Such As Children.

FY 2002 Cost (in thousands): $14,802 (6.1% of FY 2002 Goal 6 Total Costs)

Progress Toward Strategic Objective: Although EPA and the United States have met all the requirements of the Montreal Protocol to date, current understanding of the protective stratospheric ozone layer indicates that the Agency's stated goal will not be met by 2005. However, the latest quadrennial assessment of the state of the protective stratospheric ozone layer finds that restraints on production of ozone-destroying chemicals such as chlorofluorocarbons are having the intended effect. The concentration of the prime offender, chlorine, is at or near a peak in the stratosphere. And an improved scientific understanding of stratospheric ozone is reassuring scientists that the world has probably seen the worst ozone loss.[10]

The global average total column ozone amount for the period 1997 to 2001 was approximately 3% below the pre-1980 average values. However, observations show that the total combined effective abundance of ozone-depleting compounds continues to decline slowly from the peak that occurred in 1992 to 1994 in the troposphere (lower atmosphere). A return to pre-1980 total column ozone amounts in the Antarctic is expected by the middle of this century. The expected decrease in the amount of stratospheric chlorine and bromine over the next 50 years is predicted to lead to an increase in the global amount of total column ozone.[11]

EPA is also making steady progress to reduce ultraviolet overexposure, particularly among children through its voluntary SunWise School Program. In 2002 alone, EPA directly reached 233,000 students in 4,800 schools, an increase of 70% since 2001.

APG 46	Montreal Protocol Fund	Planned	Actual
FY 2002	**Provide assistance to at least 60 developing countries to facilitate emissions reductions and toward achieving the requirements of the Montreal Protocol. Goal Not Met.**	**60**	**50**
FY 2001	*Same Goal, different targets. Goal Met.*	*75*	*76*
FY 2000	*Same Goal, different targets. Goal Met.*	*50*	*50*

FY 2002 Result: EPA provided funding to 50 developing countries to facilitate emissions reductions and toward achieving the requirements of the Montreal Protocol. The Multilateral Funds were awarded with priority given to those projects targeted toward the most harmful ozone depletion substances. This resulted in not as many countries receiving funding from the Multilateral Fund, while still working toward the goal of reducing the highest risk ozone depleting substances.

APG 47	Restrict Domestic Consumption of Class II HCFCs	Planned	Actual
FY 2002	**Restrict domestic consumption of class II hydrochlorofluorocarbons (HCFCs) below 15,240 ozone depletion potential-weighted metric tons (ODP MTs) and restrict domestic exempted production and import of newly produced class I chlorofluorocarbons (CFCs) and halons below 60,000 ODP MTs. Data Lag.**	**<15,240 <60,000**	**data available in 2003**
FY 2001	*Restrict domestic consumption of class II hydrochlorofluorocarbons (HCFCs) below 15,240 ozone depletion potential-weighted metric tons (ODP MTs) and restrict domestic exempted production and import of newly produced class I chlorofluorocarbons (CFCs) and halons below 60,000 ODP MTs. Goal Met.*	*<15,240 <60,000*	*12,807 3,062*
FY 2000	*Same Goal. Goal Met.*	*<15,240 <60,000*	*13,180 462*
FY 1999	*Same Goal, different target. Goal Met.*	*<208,400 <60,000*	*<208,400 <130,000*

FY 2002 Result: Data for this performance goal will be available in mid-2003. EPA is currently on track to meet this goal.

FY 2001 Result Available in FY 2002: EPA successfully reduced consumption, production, and import of ozone-depleting substances in accordance with the U.S. obligations under the Montreal Protocol on Substances that Deplete the Ozone Layer and requirements of the Clean Air Act by restricted domestic consumption of class II HCFCs below 15,240 ODP-weighted metric tonnes (ODP MTs) and restricted domestic exempted production and import of newly produced class I CFCs and halons below 60,000 ODP MTS.

Strategic Objective: By 2006, Reduce the Risks to Ecosystems and Human Health, Particularly in Tribal and Other Subsistence-Based Communities, From Persistent, Bioaccumulative Toxicants (PBTs) and Other Selected Toxins Which Circulate in the Environment on Global and Regional Scales.

FY 2002 Cost (in thousands): $6,037 (2.5% of FY 2002 Goal 6 Total Costs)

Progress Toward Strategic Objective: EPA is on track to achieve this objective. Major progress was made toward this strategic objective when the United States signed the Stockholm Convention on Persistent Organic Pollutants (POPs) in May 2001. Countries signing the convention committed to reduce and/or eliminate the production, use, and/or release of the 12 POPs of greatest concern to the global community and established a mechanism to add further chemicals in the future. Toxics covered by the convention include DDT, PCBs, and dioxins. EPA's capacity building efforts in FY 2002 led to dioxin inventories being conducted in Jordan, Lebanon, Bruni, Vietnam, and the Philippines, and PCB inventories in the Caribbean. Domestic, regional, and international activities were conducted in FY 2002 to address mercury contamination. Mercury is known to circulate globally and accumulate in fish and is the cause of many U.S. fish advisories. EPA is leading the development of a United Nations global mercury assessment, which may result in a treaty or other global mechanism to reduce mercury risk.

Strategic Objective: Through 2005, Integrate Environmental Protection With International Trade and Investment and Increase the Application of Cleaner and More Cost-Effective Environmental Practices and Technologies in the United States and Abroad to Ensure That a Clean Environment and a Strong Economy go Hand-in-Hand.

FY 2002 Cost (in thousands): $13,141 (5.4% of FY 2002 Goal 6 Total Costs)

Progress Toward Strategic Objective: EPA is on track to achieve this objective. At the World Summit on Sustainable Development, EPA and its partners announced a goal by 2015 to reduce by half the estimated 4.4 billion people worldwide who do not have access to basic sanitation, and announced partnerships on cleaner fuels and vehicles. All seven Central American countries—El Salvador, Ecuador, Belize, Panama, Honduras, Guatemala, and Costa Rica—now have environmental ministries. These successes and the variety of projects described below will allow EPA to meet this objective.

APG 48	Enhanced Institutional Capabilities	Planned	Actual
FY 2002	**Enhance environmental management and institutional capabilities in priority countries. Goal Met.**		
	Performance Measures		
	- Assist in the development or implementation of improved environmental laws or regulations in priority countries.	**2 countries**	**2 countries**
	- Increase the transfer of environmental best practices among the United States and its partner countries and build the capacity of developing countries to collect, analyze, or disseminate environmental data.	**3 countries**	**3 countries**
	- Increase the capacity of programs in Africa or Latin America to address safe drinking water quality issues.	**3 countries**	**3 countries**

FY 2001	*Same Goal, different targets. Goal Met.*		
	Performance Measures		
	- *Number of countries or localities (3) that have adopted new or strengthened environmental laws and policies.*	*3*	*3*
	- *Number of organizations (3) that have increased environmental planning, analysis, and enforcement capabilities.*	*3*	*3*
	- *Number of organizations (3) that have increased capabilities to generate and analyze environmental data and other information.*	*3*	*3*
	- *Number of organizations (3) that have increased public outreach and participation.*	*3*	*4*
	- *Number of targeted sectors (3) that have adopted cleaner production practices.*	*3*	*2*
	- *Number of cities (3) that have reduced mobile-source based ambient air pollution concentrations.*	*3*	*3*
FY 2000	*Deliver 30 international training modules; implement 6 technical assistance/technology dissemination projects; implement 5 cooperative policy development projects; and disseminate information products on U.S. environmental technologies and techniques to 2,500 foreign customers. Goal Met.*	*30* *6* *5* *2,500*	*12* *6* *5* *3,100*

FY 2002 Result: FY 2002 efforts led to two countries committing to the phaseout of leaded gasoline and targeted countries in the Carribean and in Asia completing the first phases of commitments to the POP conventions with PCB inventories.

FY 2001 Annual Performance Goals (No Longer Reported for FY 2002)

Assess the consequences of global change (particularly climate change and climate variability) on human health and ecosystems.

Assist 10 to 12 developing countries with economies in transition in developing strategies and actions for reducing emissions of greenhouse gases and enhancing carbon sequestration.

Demonstrate technology for a 80 mpg mid-size family sedan that has low emissions and is safe, practical, and affordable.

In close cooperation with the U.S. Department of Agriculture, identify and develop specific opportunities to sequester carbon in agricultural soils, forests, other vegetation and commercial products, with collateral benefits for productivity and the environment, with carbon removal potential of up to 25 MMTCE by 2010.

Provide analysis, assessment, and reporting support to Administration officials, the Intergovernmental Panel on Climate Change, and the Framework Convention on Climate Change.

Increase the number of children participating in the SunWise School Program by 20%.

Notes:

1 U.S. EPA, U.S.-Mexico Border Program Office, *Border 2012 Program* (2002). Available at http://www.epa.gov/r6border.html.

2 U.S. EPA, Great Lakes National Program Office, *2001 Sediment Remediation Report* (Collier, June 2002). Available at http://www.epa.gov/glnpo/glindicators/sediments/remediatea.html.

3 J.M. Luross, M. Alaee, D.B. Sergeant, D.M. Whittle, and K.R. Solomon, Spatial and Temporal Distribution of Polybrominated Biphenyls in Lake Trout from the Great Lakes, *Organohalogen Compounds* 47 (2000):73–76. J.P. Hickey, S.M. Chernyak, L.J. Begnoche, and R.T. Quintal, Concentration Trends of Polybrominated Diphenyl Ethers (PBDEs) in Great Lakes Biota, U.S. Geological Survey abstract, presented in June 2002.

4 U.S. EPA, Office of Air and Radiation, Climate Protection Partnerships Division, *Partnerships Changing the World: ENERGY STAR and Other Voluntary Programs*, EPA 430-R-02-010 (Washington, DC, August 2002). 2001 Annual Report.

5 Ibid.

6 U.S. EPA, *Ozone Depletion Rules & Regulations: Harmonizing the Clean Air Act & Montreal Protocol Methyl Bromide Phaseouts*. Available at http://www.epa.gov/ozone/mbr/harmoniz.html.

7 *Federal Register* Notices: Notice 16, 67 FR 13272 (March 22, 2002); Direct Final Rule 67 FR 4185 (January 29, 2002); Subsequent Final Rule No. 10, 67 FR 44703 (July 22, 2002). All actions listed new alternatives and/or updated SNAP regulations.

8 S. Brooks, M. Goodsite, M.S. Landis, C.J. Lin, S.E.Lindberg, A. Richter, K.L. Scott, and R.K. Stevens, Dynamic Oxidation of Gaseous Mercury in the Arctic Troposphere at Polar Sunrise, *Environ. Sci. Technol.* 36 (2002):1245–1246.

9 Information about the Commuter Choice Program is available at http://www.commuterchoice.gov.

10 Ozone Depletion: A Brighter Outlook for Good Ozone, *Science* 297(5587, September 6, 2002):1623–1625.

11 The Executive Summary of the "Scientific Assessment of Ozone Depletion: 2002" published July 2002 by the Scientific Assessment Panel of the *Montreal Protocol on Substances that Deplete the Ozone Layer*.

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